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Lessons from Southern Europe

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Lessons from Southern Europe

by

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ABSTRACT

Policy-makers in OECD countries appear to be increasingly concerned about growing migration pressure from developing countries. At the same, at least within Europe, they typically complain about the low level of internal labor mobility. In this paper, we try to shed some light on the issues of both internal and external labor mobility. We investigate the link between development and migration and argue, on both theoretical and empirical grounds, that it is likely be non linear. More precisely, we find that, in a relatively poor sending country, an increase in income will have a positive impact on the propensity to migrate, even if we control for the income differential with the receiving country, because the financial constraint of the poorest become less binding. Conversely, if the home country is relatively better off, an increase in income may be associated with a fall in the propensity to migrate even for an unchanged income differential. Econometric estimation for Southern Europe over the period 1962-1988 provides substantial support to this approach. We estimate first the level of income for which the financial constraint is no longer binding, around 950$, and then the level of income for which the propensity to migrate declines, which is around $ 4300 in 1985 prices. We therefore predict a steady decline in the propensity to migrate from Southern European countries. Similarly, our results highlight the possibility that the pressure to migrate from Northern African countries and other developing countries may increase with further growth.

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1. INTRODUCTION

International migrants typically leave their home countries in search of better living and working conditions abroad. More rapid development in the sending countries should therefore be associated with falling migration. This proposition is based on simple but compelling economic reasoning. Yet, it is not universally accepted. The US Senate Commission on migration argued that, particularly in the short run, income growth at home may foster rather than discourage migration, to the extent that it uproots traditional modes of production and disseminates information about working opportunities abroad. The recent literature (Lopez and Schiff, 1998, Hatton and Williamson, 2006) has highlighted that faster development at home may relax financial constraints on would-be migrants and lead to more rather than less migration.

The empirical evidence is mixed. Schiff (1994) provides convincing evidence that migration costs are indeed quite high and may therefore constrain the mobility choice of financially constrained migrants. Hatton and Williamson (2006) argue that the combination of high mobility costs and binding financial constraints goes a long way in explaining the historical pattern of international migration skewed toward the relatively well-off countries. However, Lucas (2005) fails to find any evidence of a positive relationship between income at home and out-migration rates, even for low income sending countries.

This paper contributes to this debate in a number of ways. We develop a simple model which highlights the role of income levels in determining the propensity to migrate, while controlling for the income differentials between receiving and sending countries. Much of the literature has failed to control for this latter factor. Second, when assessing the role of the home country income on the propensity to migrate, we introduce a key distinction between the financial constraint and the home bias effects. The former simply states that higher income of the poor at home may help relax financial constraints and lead to more migration, even with an unchanged income differential. The latter, the "home bias" effect, however, leads to the opposite conclusion, namely that, under the plausible assumption that would-be migrants have an intrinsic preference for their home countries' social amenities, an increase in home income will lead to a fall in the propensity to migrate, even after controlling for the income differential with the host country. The interaction between the financial and the home bias effects generates a complex non-linear relationship between the growth of the sending countries' income and the propensity to migrate. Our (plausible) conjecture is that, for relatively poor countries, the financial constraint effect will dominate. Accordingly, higher income at home? will be associated with a rise in the income of the poor and an increase in migration pressure. For relatively better-off countries, however, the home bias effect is likely to be relatively stronger. Hence, a boost to home income should lead to a fall in the supply of migrants.

In the second part of the paper, we focus on the case of the Southern European countries, which have now completed their migration transition and whose experience therefore has some interesting implications for other countries. For the pooled sample, we estimated two income turning points: the first when the financial constraint is no longer binding, and the second when the home bias effects start dominating the emigration decision, so that further

income growth is associated with a fall in migration.

The remainder of this paper is organized as follows. In the next section, we review the home bias literature in the financial and trade fields and then present a simple model of migration. We then look at the main migration trends from Southern Europe. Countries in Southern Europe have undergone a full migration transition and have now become the destinations of substantial labor flows from Northern Africa, Eastern Europe and many other relatively poor countries. An analysis of their experience can therefore shed some light on the factors which affect the long-run trend in migration from developing countries. Econometric results are presented in section 4. Concluding comments follow in the last section.

2. THE PERVASIVENESS OF HOME BIAS.

The inability of economic theory to explain the empirical observation that investors over-invest in domestic equity and consumers over-purchase domestically produced goods and services is known as the "home bias puzzle".

Even in the financial market where equity products are more similar, the preference for buying national equity - the home bias - is very strong. Probably, information about foreign assets is less widespread and brokers propose only the better-known products, which are easy to push with clients. In fact, Ahearne, Griever and Warnock (2004) show that the registration of the financial product, i.e. in the US financial market, reduces discrimination in buying foreign equities, but even if the home bias is smaller it still remains.

The home bias in trade seems even larger. In his seminal paper McCallun, in 1995, found that in Canada inter-provincial trade was 22 times larger than province-trade. In Europe in the 1980s Nitsch (2000) found that intra-national trade in Europe was 10 times higher than intra-communitarian trade, which clearly shows that frontiers in Europe matter.
There are many reasons why natives prefer national products. Official and informal barriers probably exist, but costs are mixed with tastes. Different measures of distance have been implemented in order to consider the average size of the goods market, but in the end an unexplained part still remains. Even among the US states in the absence of trade frictions, the home bias is high. Hillbery and Hummels (2003) found a value which was 1/3 smaller than that reported by Wolf (2000) (4 times larger in state trade that among state trade) but still positive. Guiso, Sapienza and Zingales (2004) go more deeply into the causes of the home bias puzzle and use a measure of cultural biases - namely trust[1] in people of different nationality - which is significant in explaining trade, portfolio investments and foreign direct investment, even after taking into account different country characteristics, different information sets, historical and cultural variables. What clearly emerges from the survey which they use is that individuals tend to over-trust? their fellow citizens and this conditions their economic decisions.

Home bias also exists in the labour market. Intra-European migration is very limited, even if the presence of income differentials and of unemployment differentials should encourage more citizens of the European countries to move where wages are higher and where the likelihood of

[1] The measure of trust is derived from a set of surveys conducted by the Eurobarometer .

finding a job is greater. Of course, human beings are not goods: they have mobility costs, which are not only monetary costs. International mobility is reduced by the different languages spoken in the destination and sending countries, a factor which, even when it cannot affect professional life may impact upon social life. Mobility, however, is also very limited internally to countries, when the linguistic barrier is not an issue but personal costs of the location change remain. People have highly idiosyncratic preferences which have been formed while living in their area of origin and are thus conditioned by the way of life prevailing in the area where they have grown up: for instance, they will be very attached to the food produced and eaten in their region,[2] People are attached to their reference groups – friends or relatives – and being without them reduces their utility.
As culture bias has effects upon economic exchange, it biases labour mobility decisions even more so.

Table 1 Probability of remaining in the same region of birth 1994

Regional bias						
	coef	s.e.	z	P>|z|	Marginal effec	s.e.
men	0.07	0.016	4.5	0.00	0.13	0.0028
age-base	-0.04	0.0013	-30	0.00	-0.007	0.00023
age-base2	0.00068	0.0003	22	0.00	0.001	0.00001
Education1	0.467	0.029	16	0.00	0.075	0.0043
Education2	0.967	0.028	33	0.00	0.15	0.0038
Education3	1.31	0.027	47	0.00	0.24	0.005
single	-0.149	0.0199	-7	0.00	-0.26	0.0035
Belgium	0.885	0.04	21	0.00	0.12	0.0043
Denmark	-0.85	0.034	-24	0.00	-0.17	0.0081
France	0.084	0.028	3	0.003	0.14	0.0049
Ireland	0.22	0.03	7	0.00	0.038	0.0049
Spain	0.246	0.026	9	0.00	0.042	0.0043
Portugal	1.127	0.035	31	0.00	0.157	0.0036
Italy	0.96	0.03	32	0.00	0.144	0.0036
obs.89354	Wald 21609	Log pseudolikelihood -46658				

Source:Euro-panel dataset

To gain evidence on this issue we may use the data provided by the European panel[3] in 1994 for seven countries: France, Belgium, Denmark, Ireland, Italy, Greece, Portugal and Spain available. There is a question in the survey which asks respondents if they have ever moved to

[2] If you sample people according to their schedule for lunchtime, you can likely guess their location around Europe.

[3] The ECHP is a large household survey conducted in a number of European countries that yields internationally comparable information on both natives and migrants based on a standardized questionnaire which has a section on the "Migration trajectory". The survey involves annual interviews of a representative sample of households and individuals in a number of European countries. The total duration of the ECHP is 8 years, running from 1994 to 2001. In the first wave (1994), a sample of almost 130,000 people aged 16 years and more was interviewed in the then 12 Member States of the European Union (EU). The little refreshment? of the sample makes the first year, 1994, the most representative of the entire population. Austria, Finland and Sweden were added later. For more detailed information see for instance Locatelli, M., Moscato V., Pasqua S., 2001.

another region in the same country or abroad. And 76.5% of the households surveyed declared themselves to be "absolute stayers", i.e. they had not changed region of residence.[4]. If we select only the very rich (with incomes in the last 25$^{th\%?}$ quartile) the "absolute stayers" increase to 77.6%.

Fundamentally what emerges is that the residents of the European countries are so well off that they prefer not to move and even remain in the their regions of birth. If we analyze with a logit the probability of being an "absolute stayer" , namely the probability of not leaving the region of origin, it increases with income, with age, it is higher for males, lower for singles and different in different countries, with Portugal, Italy and Belgium showing the highest level of preferences for the home area and Denmark the lowest. This last finding is easy to explain given the large mobility and similarities among the Northern countries. In addition if we replace the income effect with the level of education - which captures the potential income which could be endogenous to the migration decision – the results presented in table 1 demonstrate that the higher the level of education, the higher the probability of staying.

The European Labour Force Survey is less suited to studying long-term mobility because it has only one question on the change of residential position relative to the previous year. However, the results are very similar. In 1994 in the same countries, namely France, Belgium, Denmark, Ireland, Spain, Portugal, Italy and Greece, 99% of the population had not changed region of residence since the year before. The probability of staying increased with age, was lower for singles and men, and positive to educational variables.[5]

This is just minor evidence of scant European internal mobility and its relationship with educational level; yet it seems to indicate a strong preference for living in the area of origin which increases with income and education.

3. A SIMPLE MIGRATION MODEL.

The determinants of migration decisions have been the object of much research in the literature. Traditionally, it was assumed that the decision to migrate depended on a comparison between income at home and income in the potential host country. The Harris-Todaro model refined this approach by showing that risk-neutral migrants would weigh the wage in the destination country by the probability of finding a job. The Harris-Todaro model was then extended to allow for non-neutral behavior toward the risk (Banerjee and Kanbur, 1981, Hatton 1993). The 'new' migration literature has focused on several factors which, in addition to wage differentials, may prompt people to migrate, such as the desire to diversify risk, to escape relative deprivation and the presence of imperfect information (Stark, 1991). In the spirit of the new migration literature, our model also emphasizes the role of non-income factors, in particular the home-bias in locational preferences, in affecting the migration decision.

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[4] The total amount of people interviewed does not include persons that moved abroad and remained aboard.

[5] The European Labour Force Survey has also a question on then mobility for abroad by the number of units is just to small to make any consideration??.

One stylized fact in the empirical literature on migration (Hatton and Williamson, 1993, Wyplosz, 1993) is that very few people migrate, sometimes despite the existence of very large wage differentials. This is particularly true in the case of Europe (Faini, Venturini, 1993). In the absence of overwhelming barriers to labor mobility, the puzzle of low migration rates has been attributed to large monetary costs of migration (Easterlin, 1961), to cost of living differentials, to optimistic expectations (Wyplosz, 1993) as well as to widespread uncertainty about the home country's prospects (Burda, 1993, Faini 1995).[6] Most of these factors, however, are unable to account for the steady fall in migrations from Southern Europe. Indeed, transportation costs and costs of living differentials between Northern and Southern Europe have if anything fallen in the period under consideration.

a) the 'home bias' model.

In the model below, we take a different approach. Our starting point is the assumption that people prefer to live in their home countries and that, *ceteris paribus*, they would rather not migrate so that they can avoid the social, cultural and psychological costs associated with a move to a different location. More formally, it is assumed that individuals derive utility also from the amenities that they can consume at a given location and that such amenities are more conspicuous in their home country.[7] Moving abroad involves a loss of utility because of the need to settle into a new and unfamiliar environment and the loss of social relationships. A home market bias in the locational preference is certainly easier to justify than the corresponding bias in consumption patterns (Venables and Smith, 1986) or in financial portfolio allocation (French and Poterba, 1991). As we shall see, one testable implication of this framework is that the wage level in the home country becomes a crucial determinant of the migration decision, even after controlling for the wage differential. Therefore, as in the 'new' migration literature, (expected) wage differentials are not all that matters in determining the migratory choice.

Formally, we assume that the utility of a potential migrant can be represented as follows:

$$U(w_i, f_i) \qquad \mathbf{1}$$

where w_i and f_i denote respectively the wage and the amenities in region i. There are two

[6] It may be thought that uncertainty about the home country's prospects should encourage a risk-averse person to migrate. This is no longer the case, however, once fixed moving costs introduce some irreversibility in the migration choice.

[7] A similar hypothesis is made by Djajic and Milbourne (1988) who assume that the marginal utility of consumption at home is always higher than that associated with the same rate of consumption in the host country. This assumption plays a crucial role in their analysis of return migrations. In Courant and Deardorff (1988), each country is endowed with a given level of amenities, but agents have identical preferences. As a result, there is no home market bias in the location choice.

possible locations, the South (S) and the North (N). The potential migrant initially lives in region S. Following the previous discussion, it is assumed that amenities are better? in the origin country of the potential migrant, i.e. that $f_s > f_n$. For migration to occur, evidently the wage differential, $w_n - w_s$, must be large enough to offset the loss of amenities consequent on moving abroad.

Given eq. 1, migration will occur if $U(w_n, f_n) \geq U(w_s, f_s)$. After taking a simple first-order expansion of $U(w_n, f_n)$ around $U(w_s, f_s)$, the migration condition becomes:

$$U(w_s, f_s) + U_w(w_n - w_s) + U_f(f_n - f_s) \geq U(w_s, f_s) \qquad \mathbf{2}$$

or:

$$\frac{U_w}{U_f} \geq \frac{f_s - f_n}{w_n - w_s} \qquad \mathbf{3}$$

where the derivatives of the utility function, U_w and U_f, are evaluated at w_s and f_s. One crucial consideration is that the right-hand side of eq. 3, i.e. the marginal rate of substitution between the real wage (or, more precisely, the goods that such a wage can buy) and the amenities at a given location, will not be generally constant. For instance, if we assume that U(w,f) can be described by a CES function, the migration condition becomes:

$$\gamma = \frac{1 - \delta}{\delta} \geq \frac{f_s - f_n}{w_n - w_s}\left(\frac{w_s}{f_s}\right)^{1+\rho} = z \qquad \mathbf{4}$$

where $1/(1+\rho)$ is the elasticity of substitution between w and f,[8] while δ is the distributional parameter associated with f in the CES function. What eq. 4 suggests is that migration is more likely to occur the larger the wage differential and the smaller the gap in amenities. More crucially, equation 4 also shows that an increase in the wage in the home country, i.e. in w_s, will be associated with lower migrations, even with an unchanged wage differential.[9] The intuition is simple. In this model, both the wage and the amenities associated with a given location are normal goods. A proportional increase in w_s and w_n therefore has a positive income effect

[8] ρ different from –1, otherwise consumption and amenities are perfect substitutes and the income effect disappears.

[9] Notice that this result cannot be derived simply from the concavity of the utility function. To see this one needs only to take a second order expansion of U(w) or, more simply, to consider the case where U(w) = ln w. Clearly, in the latter case, the incentive to migrate depends only on the (relative) wage differential; the wage level in the home country plays no independent role.

which will prompt consumers to try to consume more of the home country's amenities. Accordingly, the propensity to migrate will decline. The implications of this result are noteworthy. Increases in the home country income will have a twofold effect on migration, first by reducing the wage differential with the host country, secondly by inducing a decline in the propensity to migrate. Clearly, this would enhance the effectiveness of those policies which aim at reducing migration by promoting growth in the sending countries.

The model developed so far does not allow for heterogeneity among agents. If eq. 4 holds, therefore, all agents would be predicted to migrate. In a general equilibrium framework, wages would adjust so that all agents would be equally indifferent between moving abroad or staying at home. In what follows, we abstract from general equilibrium considerations and allow instead for non-homogeneous behavior. To this end, we assume that $\gamma = (1-\delta)/\delta$ is distributed within the home country population according to a Pareto distribution function:

$$\frac{\theta}{x_0}\left(\frac{x_0}{\gamma}\right)^{\theta+1} \qquad \textbf{5}$$

where x_0 and θ are parameters of the distribution function.[10] According to equation 4, migration will occur if $\gamma = (1-\delta)/\delta$ is larger than z (the right hand side of the equation). Hence, the migrants' share in the home country population is equal to:

$$Prob(\gamma \geq z) = \int_z^{\infty} \frac{\theta}{x_0}\left(\frac{x_0}{\gamma}\right)^{\theta+1} d\gamma = x_0^{\theta} z^{-\theta} \qquad \textbf{6}$$

where $z = (f_s-f_n)/(w_n-w_s)\,(w_s/f_s)^{1+\rho}$.

b) the role of financial constraints.

Eq. 6 defines the population share of those willing to migrate. However, not all would-be migrants, i.e. those for which eq. 4 holds, are actually able to move abroad. The presence of minimum educational and wealth requirements may indeed act as a binding constraint for many would-be migrants (Banerjee and Kanbur, 1981). Furthermore, capital markets imperfections may prevent a potential migrant from contracting a loan to pay for the monetary cost of migration.[11] Similarly, minimum educational and ability requirements may represent an insurmountable obstacle for many would-be migrants.[12] We therefore assume that for someone

[10] The Pareto distribution function is defined over the interval (x_0, θ).

[11] Migration costs may be a substantial constraint on the decision to move. See Schiff (1994) for some direct evidence.

[12] It may be the case, however, that agents with a higher propensity to migrate strive to acquire the educational achievements necessary to be able to move abroad (see Stark, 1993, for such an approach)

to be able to migrate, a given characteristic A (say, financial wealth) must be greater than a given critical value ('c') and therefore satisfy the condition A ≥ c. The number of actual migrants is then determined by the intersection of the two relevant sets of agents, i.e. those for which eq. 4 holds (and are therefore willing to migrate) and those for which the constraint is not binding (and are, as a result, able to move abroad):

$$Prob(\gamma \geq z, A \geq c) = \int_{z}^{\infty}\int_{c}^{\infty} f(\gamma, A)dAd\gamma \qquad \mathbf{7}$$

where f(γ,A) is the joint density function of γ and A. In what follows, we assume that A and γ are independently distributed and that the characteristic A is distributed among the population according to a Pareto distribution function. It can then be shown that the actual number of migrants (M) as a share of the home country's population (P) will be equal to:

$$\frac{M}{P} = x_0^{\theta} z^{-\theta} x_1^{\varepsilon} c^{-\varepsilon} \qquad \mathbf{8}$$

In eq. 4, an increase in the home wage was found to discourage desired migration. Plausibly, though, a rise in w_s should also relax the financial constraint. The distribution of the characteristic A would then shift to the right. We then assume that x_1, the lower limit of the support of the distribution of A, is a function of the "wage rate of the poor" in the in the South:

$$x_1 = w_{q1s}^{\alpha} \; (w_{q1s} < T) \qquad \mathbf{9}$$

We expect α>0, the implication being that increase in the home wage will relax the constraint (given α>0), but above a threshold level (T) the budget constraint is no longer binding. Substituting eq. 9 and the expression for z in eq. 8 and taking logs yields after some manipulations the following expression:

$$\ln(M/P) = \theta \ln x_0 + \theta \ln(w_n - w_s) - \theta(1+\rho) \ln w_s + \theta \ln(f_s - f_n) \qquad \mathbf{10}$$

$$+ \theta(1+\rho) \ln f_s + \varepsilon\alpha \ln wq_{1s} \; (wq_{1s} < T) - \varepsilon \ln c$$

Relative amenities and relative wages have the expected impact on the migration rate. We see, however, that even after controlling for the wage differential, the impact of w_s is *a priori* ambiguous. This is because of the contrasting effect of the financial constraint and the home bias effects. If θ (1+ρ) is large, the latter dominates, and an increase in w_s is associated

with a fall in migration. Conversely, if ε α is relatively large, the impact of a higher income among the poor ($w_{q1_{s)}}$ may prevail by relaxing the constraint and allowing more would-be migrants to move abroad, and the rate of migration may increase.

3. TRENDS IN SOUTHERN EUROPEAN MIGRATIONS

Historically, the Southern European countries have represented a constant source of migrant labor for Northern economies. The Great Depression took a heavy toll on the movement of workers between Southern and Northern Europe. However, the Southern European countries resumed their role as a source of migrant workers for the North after the second World War. During the second half of the fifties, inter-continental migration ceased and intra-European migration underwent a massive surge. The main destination countries remained France, Germany, Switzerland, Belgium, The Netherlands and some Northern European countries. The trend continued unabated until the first oil shock, when declining economic opportunities in the receiving countries forced many migrants to return home and discouraged new migrants from trying their luck in Northern Europe. Fig. 1 shows how, after a steady increase during the sixties, migration flows from Southern Europe fell dramatically in the wake of the first oil shock.

Analysts typically attribute the fall in migration rates after 1973 to the decline in labor demand in the main receiving countries (Salt, 1991). Interestingly enough, however, when in the eighties economic conditions in Northern Europe showed a clear improvement, migrations from Southern Europe did not resume. There are several possible explanations for this apparent paradox. First, it could be argued that wage and income differentials between Northern and Southern Europe during the eighties were no longer providing an adequate incentive for labor to move. But the evidence is simply not there. Fig. 2 shows that there was some income convergence between the main sending countries in Southern Europe (Portugal, Spain and Greece[13]) and the main destination countries, but the gap remained substantial, with the sole exception of Spain. Moreover, if anything the income gap during the eighties widened, and this should have augmented the incentive to migrate. Neither do we find a significant improvement in the relative labor market conditions between sending and receiving countries. Fig. 3 shows that the increase in unemployment after 1973 did not spare countries in Southern Europe. Second, it is possible that a structural shift in the composition of labor demand toward higher skills meant that employment growth in the receiving countries no longer had a substantial pull effect on (mainly unskilled) migrations. Nevertheless there was no point system in Europe[14] which could help in selecting the migrants by skill. In addition no evidence exists that the destination labour markets changed their labour demand; instead, the available evidence

[13] Italy is an exception, to the extent that the income gap with Northern Europe declined substantially between 1974 and 1990. For the reasons explained below, however, we do not include Italy in our econometric sample.

[14] A points system was not adopted in continental Europe and immigrants in continental Europe were mainly unskilled blue-collar workers. Only migration to the United Kingdom was characterized by skilled migrants, who came from former colonies or were educated in the UK. Very recently also Ireland has been able to attract skilled immigrants from Eastern Europe.

suggests that the demand for unskilled immigrants continued after 1973. When migrations from Southern Europe declined or remained flat, immigration to the traditional destination countries continued, but from other sending countries, in particular ones in Northern Africa and Turkey and Yugoslavia,[15] which kept on covering unskilled positions with their workers. Other factors, besides the structural shift in labor demand, must therefore have been at work. One plausible conjecture is that the fall in migration rates from Southern Europe reflects supply rather than demand factors. The model developed in section 2 implies that, even with constant wage differentials, the propensity to emigrate will decline if economic conditions improve in the home country.

4. ECONOMETRIC ANALYSIS

a) the estimating equation.

From eq. 10, migration is seen to depend on the wage differential (in absolute or relative terms), the average wage level and the "wage of the poor" in the sending country, as well as on the level of amenities in the home and the host countries. We also introduce among the regressors the level of unemployment in both the sending and the receiving countries. This can be justified if we consider a framework where potential migrants maximize their expected utility (which in turn is a weighted function of the utility when employed and when unemployed) and the probability of being employed is positively related to the employment rate at a given destination.[16]

For the purpose of estimation, we assume that the relative level of amenities is a decreasing function of the number of migrants in the previous 3 years[17] or of the migrant stock in the destination areas. Put differently, the non-monetary costs of migration will fall if migration in the past was large: a significant presence of previous migrants from the home country would presumably alleviate the new migrants' social and psychological costs of moving to an

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[15] For an extended description of the migration pattern from Southern Europe by destination see pp. 16-23 and by skill pp.32-35 in Venturini (2004) Post-War Migration in Southern Europe (1950-2000), CUP.

[16] It is easy to show that unemployment can be introduced into our set-up in a relatively simple manner. Let p_i be the probability of being unemployed in region i (with i=N, S) and w_i ($\overline{w_i}$) the wage rate when employed (unemployed). The migration condition becomes:

$$p_n U(\overline{w}_n, f_n) + (1 - p_n) U(w_n, f_n) \geq p_s U(\overline{w}_s, f_s) + (1 - p_s) U(W_s, f_s)$$

We only need to take a linear approximation of $U(\overline{w}_n, f_n)$, $U(w_n, f_n)$ and $U(\overline{w}_s)$ around $U(w_s, f_s)$ to find an expression analogous to eq. 3, with the relevant wage variable being now $(1-p_i)\, w_i + p_i\, \overline{w}_i$, i.e. the expected wage. In the empirical implementation, we assume that the probability of being unemployed in region i is a function of the unemployment rate there.

[17] The reason for our choice of the the last three years is the large amount of evidence in the literature that high numbers of migrants were "rotated" on short-term contracts lasting on average for aboutthree years: see for instance R. King (1993), p.175.

unfamiliar location. In this way we propose an interpretation of the migratory chain not only limited to cost reduction or information providers but in terms of? home amenities.

Even with these modifications, eq. 10 only reflects supply determinants of migration. However, demand (i.e. host country's) considerations will also play a crucial role in defining immigration policies and determining the evolution of migrations. We follow Hanson and Spilimbergo (1999b) in assuming that policy-makers' efforts to control immigration are a function of labour market conditions in the host country.[18] This is particularly correct for the European case where the main change in migration policy took place with the introduction by the sending countries of restrictive immigration policies in 1973 just after the slowdown in production due to the first oil shock.[19] Migration controls, however, can never be fully effective in stemming the flow of migrants. They rather act like a wire-mesh screen by hindering and slowing down migrations, but also permitting some inflows, particularly if the supply is very strong.[20] Unfortunately, we have no information on the amount of money spent on, and the extent of, migration controls in the destinations of Southern European migrants. Accordingly, we simply assume that the tightness of migration policy is negatively related to the employment growth rate in receiving countries[21] and add this variable to the list of regressors.

If the home amenities are a normal good we expect that the willingness to migrate will exist until the income Y is smaller than a given level of income, call it Y_1, after which people are no longer interested in moving and prefer to stay home; while people are instead able to migrate only if Y is larger than Y2. Now if $Y_2 > Y_1$, no migration takes place, while if $Y_1 > Y_2$ only those whose incomes are between the two values will move, $Y_2 > y > Y_1$.[22]

Assuming that home amenities is a normal good, we want to find two threshold levels of income: the first is the level at which the financial constraint is no longer binding (Y_2), so that all those who want to migrate are able to do so; the second is the level of income which discourages emigration because potential migrants, even if they able, are no longer willing to migrate (Y_1) because they feel affluent enough to prefer the normal good, i.e. home amenities.

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[18] Unfortunately there are no Europe-wide data on investments in border and land enforcement, and many policy changes have been only nominal in that they have not been financed implemented.

[19] For a broader discussion of migration policies in Europe in the period considered see Venturini 2004.

[20] We have borrowed this analogy from William Cline's assessment of protection in the textile and clothing sector (Cline, 1987).

[21] Immigration policies may also respond to the unemployment rate in the host country. The coefficient on U_n may therefore reflect both supply and demand factors

[22] Instead, if the home bias is an inferior good, migration takes place only if Y<Y1, and the ability to migrate arises only if Y1>Y>Y2; thus if y<Y2<Y1, only the former constraint is binding; if it is the reverse, y<Y1<Y2, only the financial constraint is binding. If the home amenities are first a normal than an inferior good?, i.e. for a low level of income, both the financial constraint (positive) and the willingness to move (negative) matter, while for a high level of income the financial constraint is no longer binding and the willingness to move increases with income. If the home amenities are first an inferior than a normal good, i.e. for a low level of income, the financial constraint has a positive effect on migration and a negative one on the willingness to move, while for a high level of income, the financial constraint is no longer binding and the willingness to move decreases with an increase in income.

We model the financial constraint by using the income of the poorest group of the population in all the countries: namely the average income per capita of the first quintile of the population wq_1. However, the financial constraint is no longer binding after it reaches a threshold T_{wq1}*, which will be selected by the estimates and which gives rise to a truncated variable income per capita of the first quintile. The level of average income per capita and its square will define another threshold of income above which, according to the proposed interpretation, the home bias restrains the willingness to move.

$$\ln(M/P) = a_0 + a_1 \ln(w_n / w_s) + a_2 \ln wq_1 T + a_3 \ln w_s + a_4 (\ln w_s)^2 \qquad (12)$$

$$+ a_5 \ln U_s + a_6 \ln U_n + a_7 \ln EG_n + \alpha_8 \ln(MC)$$

b) the data.

We estimated eq. 12 on a sample of Southern European countries which included Greece, Portugal, Spain and Turkey. Italy was excluded because of a lack of homogeneous conditions in the country, epitomized by the persistent backwardness of the Mezzogiorno area. Whereas the northern part of Italy stopped being a net emigration area many decades ago, the Mezzogiorno was a steady source of migrant workers until at least the early eighties. The existence of persistent and substantial regional differences within Italy implies that any aggregate analysis of the migration behavior of the country is most likely to be meaningless or even misleading.[23] Furthermore, an analysis of migration behavior in the Mezzogiorno has already been conducted by Faini (1989).

The migration variable *used refers to the gross inflows of population from a country of origin to a country of destination. Destination* data were used because they are more accurate and do not underestimate the emigration as the data of the country of origin do (the sources are indicated in the data appendix).

We used *gross flows* and not net flows for two reasons: first because the decision to emigrate is captured better by the gross flow variable, while the net flow variable is a better proxy for the success of the project, and second because the return flows are not registered correctly in many countries and are frequently better reported in the origin country than in the destination one.

We also used *population* data and not worker data because they are better able to capture the migration decision, which is frequently determined by a search for work?.

We used official data from host countries, thus capturing only legal migrants. However, specific surveys show that the number of illegal migrants is strongly correlated with the number of legal ones. In addition, we did not want to study the distribution of migrants

[23] Admittedly, regional differences in migration behavior and standard of living are also important for other countries in our sample, such as Spain. We believe, however, that the degree of regional inequality is much more pronounced in Italy than ,say, in Spain. For instance, in 1988 the ratio between income in the more and in the less developed regions was equal to 1.41 in Spain and 1.78 in Italy.

among destinations but rather the aggregate effect of income growth on total emigration. Consequently, we summed all the outflows in a single measure of total gross emigration rate.
As a **proxy of wages**, we used PPP corrected indicators of income per capita for both the sending and the destination countries. There is considerable discussion on whether income or wage indicators should be included in a migration equation (Hatton and Williamson, 1993). However, for medium and long-run migrations, income data may provide a better indication of the earning potentials of prospective migrants. Empirically, the use of either indicators does not seem to make much difference (Gould, 1979). Hence, given also that wage data, especially for the early years, are of dubious quality, we relied on income data.
The **income of the "poor" was approximated to the income of first quintile** of the population, which was derived from? the WIID dataset provided by the WIDER on income distribution.
Employment and unemployment data were derived from the labour force survey according to the OECD definition.
Finally, **the *destination variables*** were weighted averages of relevant variables in each of the destination considered. For instance the income per capita in the destination area was obtained as the geometrical average of income per capita in PP parity of each country of destination weighted by the share of immigrants to that destination as a share of the total outflow. The same procedure was adopted for unemployment, and employment in destination areas. The weight varies each year if the migrants change the composition of their destinations.
This choice was entailed by the type of data available. On deciding whether to move and where to go, the migrant compares the returns on all the possible destinations, so that when emigration from a country is spread across many destinations, the appropriate approach is to include all the destination wages in the emigration equation. This procedure is not feasible with aggregate data, and the correct solution is to combine all the destination variables into a weighted one which becomes a unique composite destination, while bilateral analyses resents of the changes? in the variables of the other destinations as well.
We used two proxies for the **Migratory chain;** the sum of the gross migration of the last three years, which according to the sociological and historical literature seems to be the appropriate average length of stay, and the stock of migrants abroad as the share of the native population the year before migration. whilst on the one hand this second proxy for the migratory chain seems better able to capture the size of the community abroad, on the other hand it is built with data less suited to a time series analysis because it is revised for each of the censuses, which may therefore under-report the size of the community excluding naturalized foreigners or over-report it with not registered return?.

c) estimation methods and the results.

C1 Properties of the data

We first tested for the time series properties of the data. We relied on the Im, Pesaran and Shin (2003) test for unit roots in panel data. Table 2 shows that for some of the series (migration, income and its square, foreign unemployment, and especially home unemployment and cumulated flows of emigration) the null hypothesis of a unit root was not strongly rejected. However, further testing showed that for these very same series the hypothesis of panel

cointegration could not be rejected.[24] In the worst case, therefore, we were estimating a regression with a mix of stationary and non stationary (but cointegrated) series (Sims, Stock and Watson, 1990). To err on the conservative side, in what follows we present estimates in both levels and in first differences.

To gain efficiency, we pooled the four sample countries together. However, careful testing of the pooling restrictions was indispensable. Both theoretical and Montecarlo evidence (Roberson and Symons, 1992) indicated that forcing the constraint of equal slope coefficients on an heterogeneous panel may result in very large biases. Fortunately, in our case, the pooling restrictions were basically not rejected by the data.[25] We therefore relied on a fixed effect framework where the intercept was allowed to differ across countries, but the slope coefficients were assumed to be the same.

C2 Estimation methods of the threshold

Because of the presence of an unknown threshold T^*_{wq1}[26], above which the financial constraint is no longer binding, we could not use OLS. Moreover, nor could we use Non-Linear-Least-Square, given that T_{wq1}* (simplified hereafter as T*) entered the regression in a non-linear and non-differentiable manner. Fortunately we could follow Khan and Senhadji (2001), who examined a formally similar problem of the relationship between inflation and growth, and use the conditional least square.[27] For any T*, we estimated the model by OLS, obtaining the sum of squared residuals as a function of T*. The least squares estimates of T* was found by selecting the value of T* which minimized the sum of squared residuals and maximized the Student's t of the variable LWq1T.

$$\ln(M/P) = X\beta_T + e \qquad LWq1T = \underline{T}, \ldots\ldots, \bar{T}$$

where β_T is a vector of parameters (indexed by T to show its dependence on the threshold which ranges from T_{min} to $T_{max)}$ and X is the corresponding matrix of observations on the explanatory variables.

[24] We relied on the statistics developed by Pedroni (1999). We used his procedure no. 7, which allows for endogenous regressors and heterogeneous dynamics of the error term and is distributed as a standard normal variable. The test value was equal to -20.5. The null hypothesis of no cointegration was clearly rejected.

[25] Standard tests (first on a pairwise basis and then by adding one country at a time) indicated that pooling was appropriate for Greece, Spain and Turkey. For instance, the $F_{7,39}$ test for pooling Spain and Turkey was equal to 2.14. Adding Greece yielded an $F_{7,64}$ equal to 1.70. The pooling restrictions were (marginally) rejected for Portugal. We therefore estimated the equations in Table 3 also without Portugal. The results, however, did not change in any substantial manner, with the sole exception of the coefficient on the income differential, which lost statistical significance.

[26] Testing for the actual existence of a threshold effects is a non-standard problem requiring the use of simulation methods, such as the bootstrap proposed by Hansen (2000). Hence here we shall simply assume the existence of such effects, leaving the issue for further research.

[27] As suggested by Khan M.S. and Senhadji A.S., 2001, Threshold Effects in the Relationship Between Inflation and Growth.

We defined S ($LW_{Q1}T$) and t($LW_{Q1}T$) respectively as the residual sum of squares with the threshold level of income fixed at T and the t statistic for the low income variable. The threshold level T* was chosen as $T^* = \arg\min_T \{ S(LW_{Q1}T) \}$, or equivalently as $T^* = \arg\max_T \{ LogL(LWQ1T) \}$, with a grid search on T in the range from 641 (mean for Turkey) to 1812 (maximum for Greece). As shown by Table 2 (where for reasons of space only extreme values are shown; details available on request,) T* is also such that $t(LW_{Q1}T^*) = \max(|t(LWQ1T)|)$ and the coefficient has the expected positive sign. Hence, we could move to estimation of model of equation (12) with the threshold fixed at T*=930.

Table 2 Test Results of Thresholds

Threshold	W_{q1}	*SSR*	*t student*	*log Likelihood*
T_{max}	1812	17.8	-1.1	-56
T*	930	7.8	3.4	-14
T_{min}	641	13.0	-1	-41

C3 Results

The econometric results for the pooled sample are reported in table 3 (column 1 and 3).
First income differentials affect the evolution of migrations: as the wage differential increases, migration grows.
Secondly, labor market conditions in the receiving countries matter considerably. Indeed, both the unemployment rate and the employment growth rate in the host country play a highly significant role in affecting migrations.
Thirdly, the level of income in the sending country is a significant determinant of migration behavior. As the income of the poorest group of the population increases, the ability to emigrate increases, and the total outflows are positively affected by income growth. In our case, the budget constraint stops being binding when the income per capita reaches 950$. Instead, if the average income increases after about 3500$ per capita, its effect starts to become negative and we interpret it as the effect of the home bias.
This seems to indicate that, for a given wage dispersion, in the early stages of development, increases in the sending country's economic well-being give rise to more rather than less migrations to the extent that they help relax the financial and educational constraints which prevented many would-be migrants from moving abroad. A similar pattern, but in a different context, was identified by Banerjee and Kanbur (1981).[28] For relatively higher levels of income, however, further income growth is associated with lower migrations, even after controlling for the income differential.
We used? two proxies for the migratory chain: the cumulated flows of the last three years of

[28] The main difference between our model and the one of Kanbur and Banerjee is that, in the latter, the downward-sloping portion of the income-migration schedule is simply due to fact that an increase in the home country's income entails a reduction in the income differential with the destination country. By contrast, in our model, the income differential is kept constant and the reduction in the migration rate is due to the effect that greater economic well-being exerts on the propensity to migrate.

migration, and the share in the native population of the stock of previous migrants abroad. Not surprisingly, the former performed better than the latter.[29] In principle, the stock variable should be more appropriate because it describes the size of the migration community in the host country; however, the quality of stock data is very poor in many countries (see appendix for details).

Finally, in columns 2 and 4, we follow Arellano and Bond (1991) in allowing for the fact that a fixed effect specification may not be appropriate.[30] To deal with this problem, we estimated the equation in a first-difference form[31] and relied on an instrumental variable procedure to allow for the resulting correlation between the new error term and the dependent variable.[32] The results again provide strong support for our approach. All coefficients, including domestic unemployment, are quite well determined and bear the right sign. Once again, we find that, even after controlling for the wage differential, the level of income in the home country plays a crucial role in influencing migrations, with a positive effect for relatively poor people and a negative effect after a high level of income.

As a further check on the robustness of our results, we introduced both a linear and a quadratic trend term into the equation. Neither of these two variables was statistically significant. Furthermore, the size and the statistical significance of all the other coefficients were basically unaffected by this modification.

Cumulated emigration performs better than the stock variable, which is now significant but with a negative sign. The negative sign of the stock variable is not unusual, because the change in the stock resents of? the return to the home country, which takes place in another phase of the life-course and which is negatively correlated with the inflows.

We also tested for the conjecture that the structural shift in the composition of labor demand away from low-skilled workers meant that employment growth (EG) in the destination countries had a less significant impact on migrations after 1980.[33] We found little evidence in support of this claim.

The statistical properties of the estimated equations appear to be satisfactory. We tested all equations for residual autocorrelation, stability and predictive power. In no case did we find

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[29] The stock variable is a very painful one?. Even if the amount of people abroad come from the same country, they may have originated from different areas of that country and be very different. In addition new migrants have different backgrounds from previous ones, so that they frequently have nothing in common. For a survey see A Venturini 2004, chapter 2.6.3 pp.82. It is not the aggregation of the data which causes a poor performance of the stock variable, because also in the analysis of bilateral flows it performs very poorly.

[30] This is because when taking the difference from each country's mean to calculate the country's fixed effect, the error term becomes:

$\varepsilon_{it} - (1/T)\sum_{t=1}^{T} \varepsilon_{it}$ and, for relatively small T, is therefore correlated with the lagged dependent variable.

[31] Estimation in first difference is also advisable because of the evidence that some series are not stationary, hetheroschedastic s.e. are computed.

[32] See Arellano and Bond (1991) for further details on the estimation procedure.

[33] Zimmermann (1994) shows that pull factors were much less significant in affecting migrations from Southern Europe after 1973.

any indications of significant misspecification.

The finding that economic growth in the sending country will have a positive impact on migration for relatively poor countries (to the extent that it relaxes existing constraints on migration), but will exert an opposite effect on middle-income countries (given that potential migrants will then be more willing to consume their home countries' amenities) offers encouraging support to our model.

However, demographic considerations may provide an alternative explanation for this finding. Indeed, demographic transition theories suggest that income growth is initially accompanied by an acceleration in population growth (to the extent that the fall in the death rate predates the decline in the birth rate) and therefore gives rise to an increasing weight of young age cohorts in the population. Given that migration is a (negative) function of age, the larger share of young cohorts will tend to increase migrations. In a second phase, though, the belated decline in the birth rate will induce a decline in the weight of young adult cohorts and a fall in the propensity to migrate. Overall, therefore, demographic factors could fully account for the inverse-U pattern of migrations that we found in our data. We controlled for this factor by introducing into our regressions the share of people aged 14-29 (or 20-29) in the population. Table 3 shows the evolution of the first of these two indicators for our sample countries. The share of young adults at first declines and then rises after 1970.[34] Clearly, it is difficult to reconcile this pattern with the supposedly positive effect of young adult cohorts on migrations. This was indeed confirmed by our regression analysis (not reported here). In no case did the share of young adult cohorts (be it measured by the number of people aged 14-29 or 20-29) in the population prove to be an even nearly significant factor in determining migrations. We therefore conclude that, at least for the Southern European countries, demographic factors do not provide a convincing explanation for the hump-shaped pattern of migrations.

Overall, our results suggest that the impact of income levels on emigration is rather complex. For relatively richer countries, it will reduce the income differential with the destination countries and also encourage people not to incur the social and psychological costs of migration. Emigration will therefore unambiguously decline. By contrast, for poor countries, the migration impact of higher income should be ambiguous. On the one hand, the income differential with the receiving countries will fall. On the other, the financial constraint which prevented many would-be migrants from going abroad will become less binding. The net effect may plausibly be positive, particularly if the sending country is relatively poor to begin with. Our estimates suggest that after 950$ per capita, the financial constraint is no longer binding and that the turning point in the migration-income relationship falls within a relatively narrow range, about 4000$ per capita.

To sum up, our approach moves some steps forward in explaining two apparent paradoxes in the empirics of migrations. First, it is often found that migrants do not come from the relatively poor areas of countries. It is for instance an established fact among economic historians that in the nineteenth century the flow of intercontinental migrations originated mostly from relatively well-off countries in Europe, namely England first and Germany later

[34] Note, however, that data on the size of population cohorts are available only at five-year intervals. In the regression analysis, we were therefore forced to rely on a linear interpolation.

(Razin and Sadka, 1992, Davis, 1984). Poorer countries in Southern Europe by contrast were relative latecomers as sources of migrant workers. The second puzzle is the fact that often, even in the presence of large and persistent wage differentials, the rate of migration may be very low. The former puzzle is explained by the role of financial constraints for would-be migrants. To account for the second puzzle, we rely on the existence of non-monetary costs of migration and the desire by potential migrants to consume more of their home country's amenities, when their income increases. The empirical relevance of this approach is likely to be more significant for international migrations, where cultural, geographical and linguistic barriers matter relatively more.

5. CONCLUSIONS AND POLICY IMPLICATIONS.

This paper has sought to shed light on the issues of internal and external labor mobility. Regarding the former, it has shown that the outlook for internal labor mobility in Europe is rather bleak. Despite sometimes persistent wage and income differentials, there is little evidence that even the full abolition of barriers to internal migrations within Europe may lead to a resumption of labor flows.[35] Our results indicate that the propensity to emigrate from Southern European countries, which used to be the dominant sources of worker migrants within the Community, has fallen dramatically and is not likely to increase again. Indeed, most countries in Southern Europe are well to the right of the migration turning point, meaning that further income growth will further enhance the decline in the propensity to migrate. We have offered a new explanation for this phenomenon, focusing on the impact of income growth, for given wage differentials, on the propensity to migrate.

Regarding external migrations, this paper adds causes of both optimism and pessimism to the traditional view that growth in the sending countries will stem migration pressures. It adds optimism to the extent that it shows that, after a certain point, further growth in the origin countries will lead to lower migration propensity, even with constant wage differentials. Put differently, higher income in the sending countries will lower migrations both through their impact on the income differential and because it will lower the propensity to move abroad. The paper's findings, however, are also a cause for pessimism to the extent that they show that such effects will not work for relatively poor countries, where income growth may be associated with more rather than less migrations. Most sending countries in Northern Africa have still a long way to grow before reaching the migration turning point. In these circumstances, aid and development policies, particularly if geared to egalitarian objectives, may not help much in stemming migration. This is not to say, of course, that aid and development policies should not be encouraged. It is meant instead to emphasize that such policies should not be loaded with ancillary objectives such as the discouragement of migration.

[35] See Attanasio and Padoa-Schioppa (1991), Eichengreen (1992) and Decressin and Fatas (1995) for further evidence on labor mobility in Europe.

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Table 1

Time series properties: the Im-Pesaran- Shin test[+]

	Levels	First differences
L(M/P)	-1.65**	-3.30*
LY	-1.67**	-4.31*
LYSQ	-1.41***	-4.32*
LDIF	-2.81*	-
U_i	-1.07	-3.26*
U_n	-1.46***	-5.44*
EG_n	-3.66*	-
LY_{Q1}[°]	-1.98***	-3.78*
MC	-0.79	-3.14*
L(STOCK/P)	-1.5***	-1.4**

Legend.

M: migrations, P: population, LY: log of income in the home country, LDIF: log of the (relative) income differential, U_i: home country's unemployment, U_n: host country's unemployment, EG_n: employment growth in the host country, LYq1 income of the poor, MC migratory chain as cumulated last three year flows, STOCK stock of migrants abroad.

Notes

[+] The Im – Pesaran – Shin W procedure is a test for unit roots in panel data. It does not impose equal roots in the series. It is distributed as an asymptotically normal variable.

[*] The null hypothesis of a unit root is rejected at a 1% confidence level

[**] The null hypothesis of a unit root is rejected at a 5% confidence level

[***] The null hypothesis of a unit root is rejected at a 10% confidence level

[°]The truncated variable is stationary in first differences.

Table 3

The determinants of migration
(pooled data)

Dep. var.: ln (M/P)

	OLS	GMM-DIF [1]		OLS	GMM-DIF [1]
Constant	-118 (7.3)	------	Constant	-194 (4)	------
LDIF	2.99 (2.6)	1.8 (1.6)	LDIF	3.39 (2.8)	1.2 (1.3)
U_i [2]	-0.01 (0.7)	.02 (1.9)	U_i [2]	0.01 (0.5)	.03 (2.5)
U_n	-.17 (3)	-.14 (3.7)	U_n	-.27 (6)	-.14 (4.3)
EG_n	10.7 (4.41)	12.14 (2.9)	EG_n	8 (3.6)	10.6 (2.4)
MC	.028 (6)	.02 (1.75)	LSTOCK	0.055 (0.3)	-.24 (1.9)
D67	-.70 (6)	-1.2 (2.9)	D67	-.5 (3.6)	-.9 (10)
D82	.95 (8)	1.7 (1.7)	D82	.7 (5.8)	0.6 (4.6)
LY_{Q1T}	0.07 (5)	0.07 (4.7)	LY_{Q1T}	0.09 (2.27)	0.047 (1.9)
LY	28 (6.8)	25.2 (3.9)	LY	46 (4.6)	48.0 (8)
LYSQ	-1.6 (6)	-1.5 (4.0)	LYSQ	-2.7 (4.4)	-2.9 (9)
R^2	.91	------	R^2	.87	------
SER	.30	.31	SER	.35	.26
Sargan $\chi^2(25)$	------	35	Sargan $\chi^2(25)$	------	40

Legend.
M: migrations, P: population, LY: log of income in the home country, LYSQ: LY^2, LDIF: log of the (relative) income differential; Lyq1T: log income in the first quintile in the home income, truncated at the threshold level 950$, U_i: home country's unemployment, U_n: host country's unemployment, EG_n: employment growth in the host country, D67: dummy variable (1967 migration stop in Greece), D82: 1982 French regularization for Portugal, LSTOCKP stock of emigrants abroad on native population, MC sum of the three previous gross emigration outflows.
Country intercepts have been omitted. T-statistics in parenthesis. The Sargan procedure is a test for the overidentifying restrictions in an instrumental variable context. See Arellano and Bond (1991).

Notes. [1]: dynamic panel data estimation. [2]: U_i in the seventies for Portugal.
First-order serial correlation test has been introduced by taking first differences in the original equation.

Table 4

Population share of young adult cohorts
(14-29 years aged people)

	Portugal	Spain	Greece	Turkey
1960	0.236	0.231	0.251	0.250
1965	0.229	0.223	0.234	0.253
1970	0.206	0.218	0.204	0.249
1975	0.238	0.228	0.216	0.270
1980	0.253	0.230	0.215	0.276
1985	0.253	0.241	0.221	0.282
1988	0.251	0.245	0.219	0.283

Figure 1

Migration rates from Southern Europe

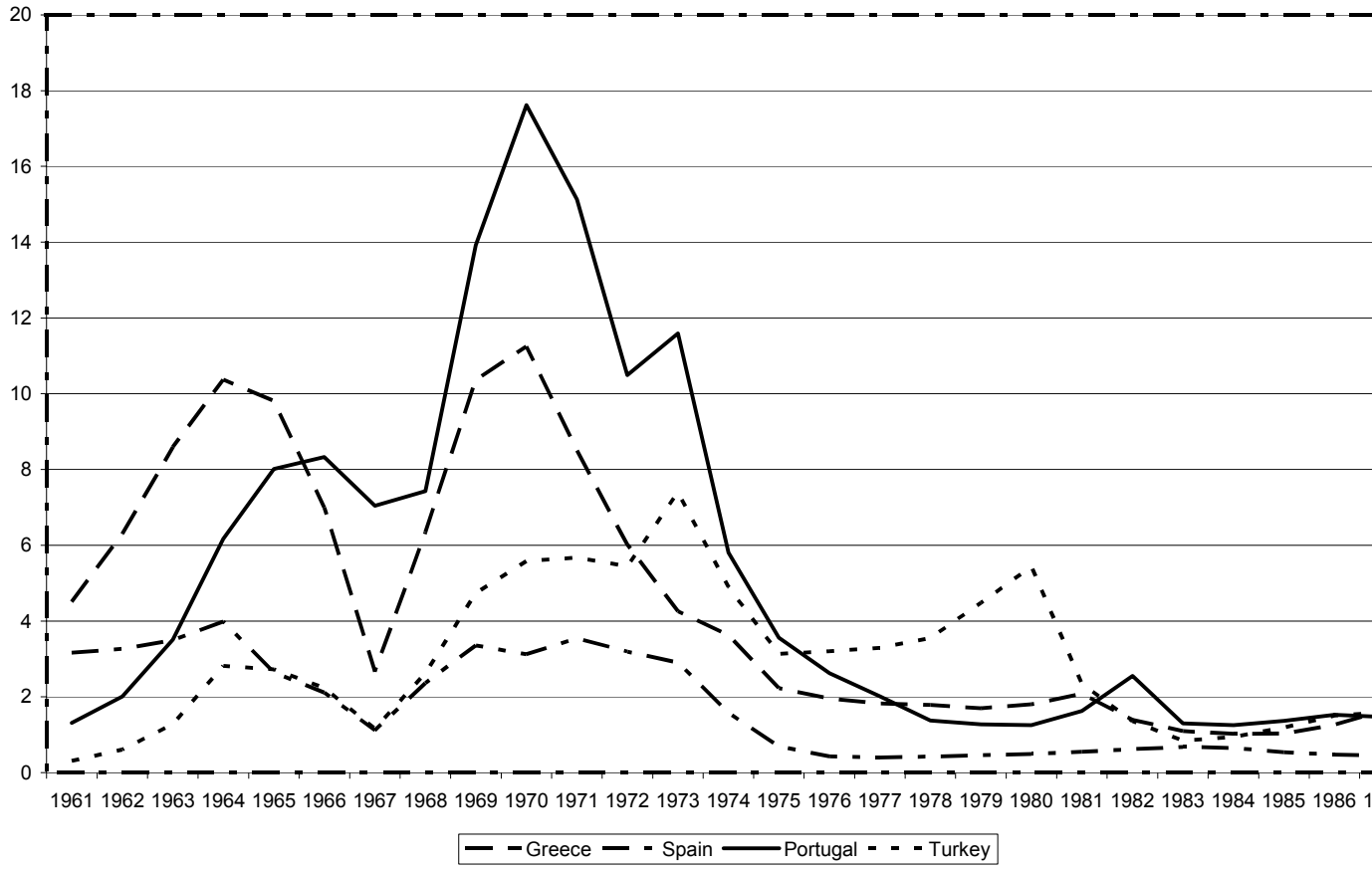


Figure 2

Income differentials
(ratio between host and home country income)

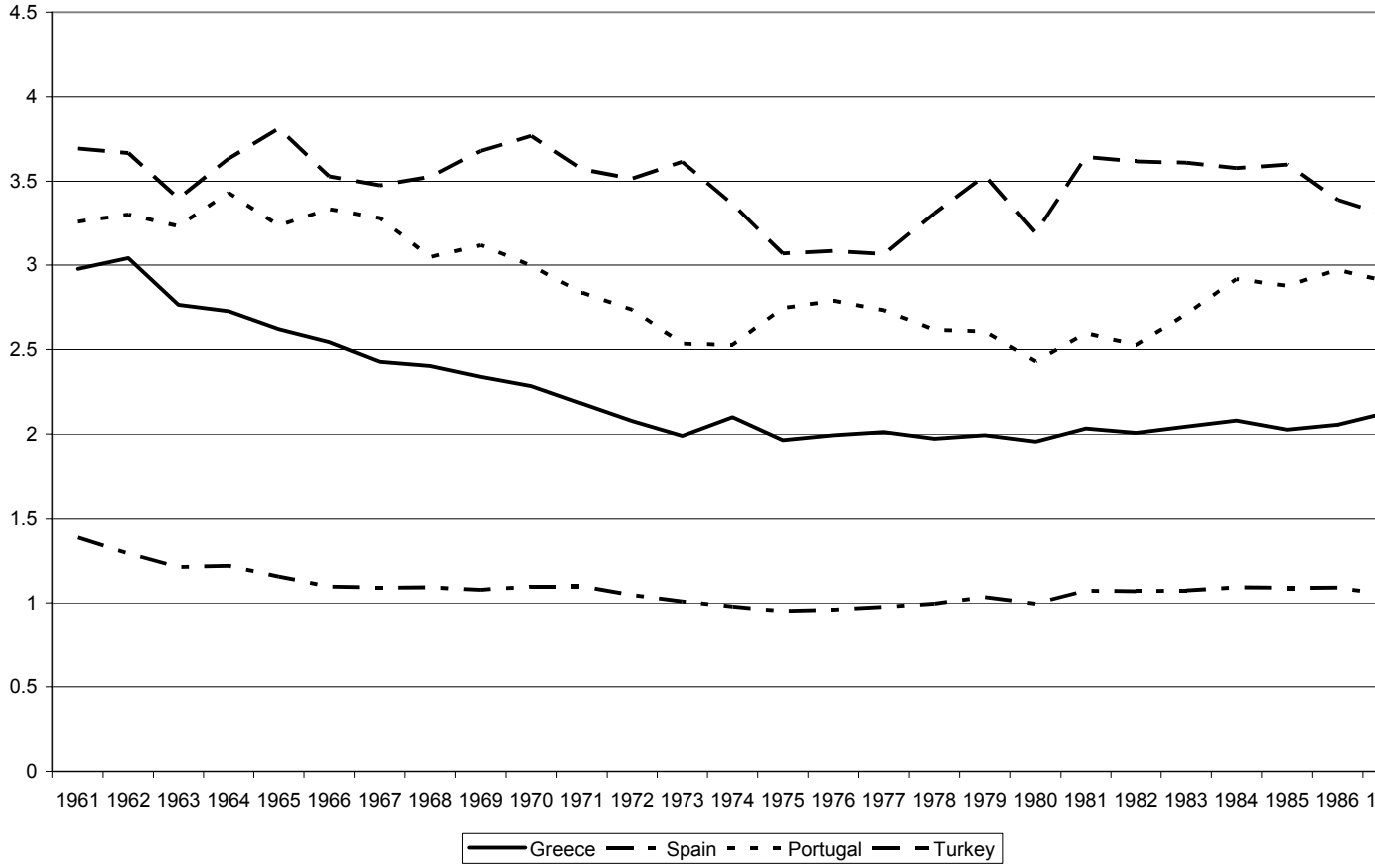
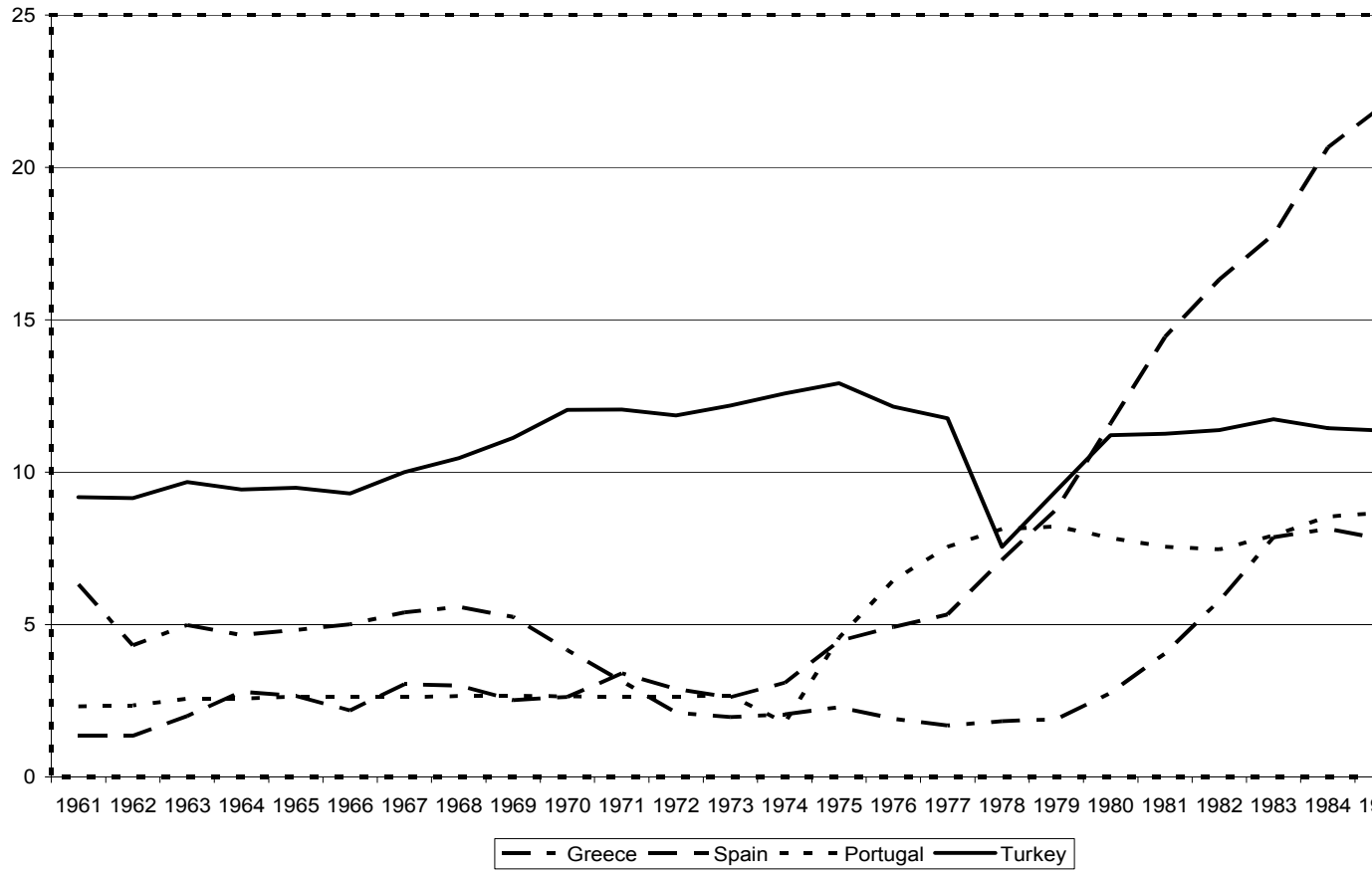


Figure 3

Unemployment rate in Southern Europe



Data and variables appendix

Methodology:

Data source:

The data were collected as part of a CNR project. The use of the dataset was restricted to the members of the project.

MIGRATION DATA

All data derived from national sources have been cross-checked with the OECD publication now published with the title Migration Trends, which was previously not publicly available and obtained as a restricted internal publication of the SOPEMI group composed of national correspondents.

Stock and flows in Germany were derived from the Federal Statistical Office, Wiesbaden
The data refer to the foreign legal population in Western Germany
Auslaendische Wohnbevoelkerung in der Bundesrepublik
Immigration of foreigners into Western Germany
Zuzuege von Auslandern in die Bundesrepublik.

Stock and flows in Sweden were derived from SOS Befolken ngsförändnagel obtained from the Centre for Research in International Migration and Ethnic Relations, Stockholm University
Ministry of Labour, based on permits issued or renewed by the host countries also not for work purposes.

Stock and flows in Switzerland: Statistics Office of the Bundesamt für Ausländerfragen, Berne

Stock and flows in France: data received from the INED "personne entrees" (annual source) and foreign population at the Census (interpolated for the missing years).

Stock and flows in The Netherlands CBS Mndstat Bevolking.
CBS Jearwerk Buiteniandse Migratie 1977-85; 86-96.
CBS, Maandstatistiek Bevolking and Jaarwerk van de Buitenlandse Migrate various years.

Stock and flows in Belgium National Statistical Office.

Also used have been:
Demographic Statistics, 1990, EUROSTAT
Statistiques sur la migration 3C, 1994,EUROSTAT
Migration Statistics, 3A, 1995 EUROSTAT

OTHER DATA

Total population (P): OECD data.
Income per capita in Purchasing Power Parity (Y): Summer and Heston data base.
Unemployment rate (U): OECD data.
Employment growth (EG): OECD data.
Income of the first quintile of the population (LYQ1), the share of income of the first quintile was derived from the surveys reported in the WIID of WIDER, which includes the dataset of Deninger and Squire. Unfortunately, annual surveys are not available, so that high-quality surveys were selected and the missing years interpolated.

MORE INFORMATION ON EUROPEAN MIGRATION

Policy issue.

The only major policy change that took place during this time span, 1962-1988, is the restriction imposed after the oil shock in 1973, which however was effective after the increase of the unemployment rate and the slowdown of GNP growth of destination countries. Consequently, the dummy is frequently not significant because the policy has been already anticipated by economic changes.

Point system-skill-education

The issue is very important and should be cited in the text. Unfortunately, continental Europe does not have a point system; in addition it has been unable to attract skilled migrants. Fundamentally, immigration from the Mediterranean countries to North Europe is unskilled. United Kingdom is an outlier in the European context for two main reasons: language and the educational system. And language opened the Irish labour market to foreign investors and to skilled immigrants in the 2000s (in addition to tax reductions). When in 2003 Germany tried to attract Indian engineers, it was unsuccessful because of the language barrier, while it has been more successful with the Polish and East-European engineers.

Greece 1960-88	**Mean**	**Stan.dev**	**max**	**min**
Log gross migration rate	1.21	0.81	2.42	0.03
Log income per capita in PP in origin country	8.314	0.33	8.66	7.65
Log Income per capita in PP in destination area	8.982	0.22	9.28	8.58
Log Income differential	0.8	1.36	1.11	0.67
Log Income per capita in PP in origin country I quintile	7.28	0.23	7.50	6.83
Origin unemployment rate	4.46	2.12	8.143	1.68
Destination unemployment rate	3.22	2.86	8.27	0.057
Destination employment growth	0.002	0.015	0.05	-0.03
Log stock of migrants on population	3.35	0.5	3.89	1.9
Spain 1960-88	**Mean**	**Stan.dev**	**max**	**min**
Log gross migration rate	0.16	0.89	1.38	-0.9
Log income per capita in PP in origin	8.61	0.24	8.91	8.029
Log Income per capita in PP in destination area	8.97	0.16	9.18	8.65
Log Income differential	0.077322	0.086945	0.32914	-0.04876
Log Income per capita in PP in origin country I quintile	7.64	0.33	8.16	7
Origin unemployment rate	8.233436	7.460659	22.01476	1.3466
Destination unemployment rate	2.580993	2.00187	5.94694	0.32715
Destination employment growth	0.006	0.015	0.03	-0.03
Log stock of migrants on population	3.17	0.31	3.4	1.9
Portugal1960-88	**Mean**	**Stan.dev**	**max**	**min**
Log gross migration rate	1.21	0.922	2.86	-0.32
Log income per capita in PP	8.11	0.35	8.57	7.45
Log Income per capita in PP in destination area	8.97	0.23	9.22	8.51
Log Income differential	1.060453	0.098974	1.23239	0.888
Log Income per capita in PP in origin country I quintile	6.88	0.37	7.39	6.2
Origin unemployment rate	4.989552	2.643175	8.66922	1.78144
Destination unemployment rate	4.19888	3.006526	9.26638	0.84681
Destination employment growth	0.04	0.007	0.015	-0.016
Log stock of migrants on population	3.9	0.88	4.55	1.7
Turky1960-88	**Mean**	**Stan.dev**	**max**	**min**
Log gross migration rate	0.908323	0.676404	2.00182	-1.17527
Log income per capita in PP in origin country	7.888957	0.224642	8.19919	7.46737
Log Income per capita in PP in destination area	9.005283	0.221087	9.32451	8.60204
Log Income differential	1.245705	1.245705	1.33892	1.12054
Log Income per capita in PP in origin country I quintile	6.42	0.28	6.85	5.9
origin unemployment rate	10.76118	1.337179	12.91423	7.54886
destination unemployment rate	3.664498	3.013951	3.013951	0.62247
destination employment growth	0.02	0.0149	0.05	-0.028
Log stock of migrants on population	2.6	1.28	3.67	0.3